

### REMARKS

This Amendment and Response is responsive to a non-final Office Action mailed by the Office on June 3, 2002. Claims 17-33 and 35-54 are pending in the application. Claims 17-33 and 35-53 stand rejected under 35 U.S.C. 102(e) as allegedly anticipated by U.S. Patent No. 5,186,629 to Rohen (hereinafter "Rohen"). Claims 24 and 38 stand rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Rohen in view of U.S. Patent No. 4,868,549 to Affinito, et al. (hereinafter "Affinito"). Applicant respectfully traverses Examiner's rejection of the claims.

Applicant has amended claims 17-33, 35-41, 43-44, 47-49, and 53. The foregoing amendments have not been made to overcome the art cited by the Office Action. Rather, the amendments have been made to delete unnecessary terms and to clarify and broaden the pending claims. The amendments are discussed in further detail below, and support for the amendments may be found in the specification and the original claims. No new matter has been added. Applicant submits that the pending claims are patentable. Reconsideration of the claims is respectfully requested in view of the foregoing amendment and the following remarks.

#### **I. Claims 17-33 and 35-54**

Claims 17-23, 25-33, 35-37, and 39-54 stand rejected under 35 U.S.C. 102(e) as allegedly anticipated by Rohen. "To anticipate a claim, the reference must teach every element of the claim." MPEP § 2131.

In claims 17 and 30, Applicant claims, "An apparatus comprising ... a movement generator ... coupled to said housing" and other elements. Rohen does not teach, "a movement generator ... coupled to said housing." Rohen delivers its tactile feedback directly to a user's finger. *See* col. 6, lines 12 - 38. The movement generator is not "coupled to said housing" in Rohen. Therefore, Rohen cannot anticipate claims 17 and 30. Claims 17-23 and 25-29 depend from claim 17. Since claim 17 is patentable, claims 17-23 and 25-29 are patentable as well. Claims 31-33, 35-37, and 39-54 depend from claim 30. Since claim 30 is patentable, claims 31-33, 35-37, and 39-54 are patentable as well.

In claim 43, Applicant claims a method that includes, "delivering a tactile sensation to said housing." Rohen does not teach "delivering a tactile sensation to said housing." Again, Rohen shows delivering tactile feedback to the user's finger, *see* col. 6, lines 12 – 38, not "to said housing," as claimed. Therefore, Rohen cannot anticipate claim 43. Claims 44-54 depend from claim 43. Since claim 43 is patentable, claims 44-54 are patentable as well.

Applicant respectfully requests that the Examiner remove the rejection of claims 17-23, 25-33, 35-37, and 39-54.

## **II. Claims 24 and 38**

Claims 24 and 38 stand rejected under 35 U.S.C. 103(a) as unpatentable over Rohen in view of Affinito. One of the criteria for a prima facie case of obviousness is that "the prior art reference (or references when combined) must teach or suggest all the claim limitations." MPEP § 2143. The cited references do not teach or suggest all the claim limitations of claims 24 and 38.

In claims 17 and 30, Applicant claims, "a movement generator ... coupled to said housing." Claims 24 and 38 depend from claims 17 and 30, respectively. Neither Rohen nor Affinito disclose a "a movement generator ... coupled to said housing." Therefore, claims 24 and 38 are patentable over Rohen in view of Affinito.

Applicant respectfully requests that the Examiner remove the rejection of claims 24-38.

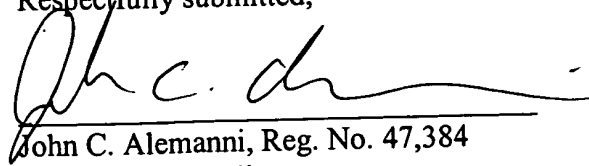
## **III. Conclusion**

Applicant respectfully submits that claims 17-23, 25-33, 35-37, and 39-54 are allowable. A favorable Office Action is respectfully solicited. The Examiner is invited to contact the undersigned at (336)-607-7311 to discuss any matter related to the application.

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**PATENT**

Respectfully submitted,



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## **CLAIMS WITH MARKINGS TO SHOW CHANGES/AMENDMENTS MADE**

In accordance with 37 CFR 1.121(c), the following version of the claims, as rewritten by the foregoing amendments, shows the changes made relative to previous versions of the claims.

17. (amended) An apparatus [A computer mouse device for tracking user input and providing tactile feedback, said mouse device] comprising:

a housing [designed to move over a separate flat surface, said housing designed to be engaged by a palm of a user's hand when said housing moves on or rests on said flat surface];

a tracking element provided within said housing that tracks the motion of said housing in x- and y-directions with respect to a[said] flat surface[, wherein motion data from said tracking element is transmitted to a host computer for updating the status of a cursor on a graphical display displaying one or more graphical details];

[a signal channel allowing communication between said mouse device and said host computer, wherein said mouse device receives via said signal channel a. sensory feedback signal from said host computer when said cursor displayed on said host computer interacts with one of said graphical details in response to said motion data;] and

a movement generator included within and coupled to said housing[, said movement generator generating motion of said housing, thereby delivering a tactile sensation to said user's palm through said housing when said palm is in contact with said housing], said movement generator delivering a[said] tactile sensation in response to a[said] sensory feedback signal received over a[said] signal channel.

18. (amended) An apparatus [A computer mouse device] as recited in claim 17, wherein said movement generator is capable of generating vibrations on said housing of varying frequency corresponding to different graphical details on a[said] graphical display.

19. (amended) An apparatus [A computer mouse device] as recited in claim 18 wherein said sensory feedback signal conveys a particular vibration frequency by a coding of pulse sequences.

20. (amended) An apparatus [A computer mouse device] as recited in claim 17 wherein said movement generator generates said motion in said entire housing of said computer mouse device.

21. (amended) An apparatus [A computer mouse device] as recited in claim 17 further comprising a resilient material, said resilient material enabling said motion by storing and releasing energy.

22. (amended) An apparatus [A computer mouse device] as recited in claim 17 wherein said housing includes a casing portion and a lower portion, wherein said movement generator generates a[said] motion in said casing portion with respect to said lower portion.

23. (amended) An apparatus [A computer mouse device] as recited in claim 22 further comprising a resilient material, said resilient material being located within said housing between said casing portion and said lower portion.

24. (amended) An apparatus [A computer mouse device] as recited in claim 17 wherein said movement generator is an electromagnetic actuator.

25. (amended) An apparatus [A computer mouse device] as recited in claim 17 wherein said movement generator is activated in response to movement corresponding with graphical details on a graphical display, wherein at least one of said graphical details is a border of a window.

26. (amended) An apparatus [A computer mouse device] as recited in claim 17 wherein said movement generator is activated in response to movement corresponding with graphical details on a graphical display, wherein at least one of said graphical details is an icon.

27. (amended) An apparatus [A computer mouse device] as recited in claim 17 wherein said movement of said housing includes a vibration of said housing and wherein different graphical details of a graphical display are coded with different vibration frequencies[ so that a user can identify said graphical details by vibration frequency].

28. (amended) An apparatus [A computer mouse device] as recited in claim 17 wherein said movement generator generates motion of said housing by impacting said housing with a moving portion of said movement generator.

29. (amended) An apparatus [A computer mouse device] as recited in claim 28 wherein said movement generator impacts said housing at a location underneath a[said] palm of a[said] user when said palm contacts said housing.

30. (amended) An apparatus [A computer mouse device for tracking user input and providing tactile feedback, said mouse device] comprising:

a housing including a lower portion and an upper portion, said lower portion designed to move over a [separate] flat surface[, said upper portion designed to be engaged by the palm of a user when said lower portion is in contact with said flat surface];

a tracking element provided within said housing for tracking motion of said housing with respect to said flat surface[, wherein motion data from said tracking element is transmitted to a host computer for updating the status of a cursor on a graphical display containing one or more graphical details];

[a signal channel allowing communication between said mouse device and said host computer, wherein said mouse device receives via said signal channel a sensory

feedback signal from said host computer when said cursor displayed on said host computer interacts with one of said graphical details in response to said motion data;] and a movement generator included within and coupled to said housing for generating motion of said housing with respect to said flat surface[, thereby delivering] that delivers a bump sensation [to said user's palm] through said housing [when said palm is in contact with said housing], said movement generator delivering said bump sensation in response to a[said] sensory feedback signal received over a[said] signal channel.

31. (amended) An apparatus [A computer mouse device] as recited in claim 30, wherein said movement generator is capable of generating bump sensations of varying magnitude corresponding to different graphical details on a[said host computer's] graphical display.

32. (amended) An apparatus [A computer mouse device] as recited in claim 30, wherein said movement generator is capable of generating vibrations on said housing of varying frequency corresponding to different graphical details on a[said host computer's] graphical display.

33. (amended) An apparatus [A computer mouse device] as recited in claim 30 wherein said motion of said housing includes a vibration of said housing and wherein said sensory feedback signal conveys a particular vibration frequency by a coding of pulse sequences.

35. (amended) An apparatus [A computer mouse device] as recited in claim 30 further comprising a resilient material, said resilient material enabling said bump sensation by storing and releasing energy.

36. (amended) An apparatus [A computer mouse device] in claim 30 wherein said movement generator generates said motion in an upper portion of said housing with respect to a lower portion of said housing.

37. (amended) An apparatus [A computer mouse device] as recited in claim 36 further comprising a resilient element, said resilient element being located within said housing between said upper portion and said lower portion.

38. (amended) An apparatus [A computer mouse device] in claim 30 wherein said movement generator includes electromagnets.

39. (amended) An apparatus [A computer mouse device] as recited in claim 30 wherein said movement generator is activated in response to movement corresponding with graphical details on a graphical display, wherein at least one of said graphical details is a border of a window.

40. (amended) An apparatus [A computer mouse device] as recited in claim 30 wherein said movement generator is activated in response to movement corresponding with graphical details on a graphical display, wherein at least one of said graphical details is an icon.

41. (amended) An apparatus [A computer mouse device] as recited in claim 30 wherein said motion of said housing includes a vibration of said housing and wherein different graphical details are coded with different vibration frequencies [so that a user can identify graphical details by vibration frequency].

43. (amended) A method for providing tactile feedback [to a user of a mouse device in communication with a host computer, the method] comprising:

[providing motion signals to said host computer from said mouse device, wherein said motion signals represent motion of said mouse device on a flat surface];

receiving on a [said] mouse device a sensory feedback signal [from said host computer over a signal channel, said sensory feedback signal being sent by said host computer when a cursor displayed on said host computer interacts with a graphical detail in response to said motion signals]; and



generating a movement of a casing portion of said mouse device with respect to a bottom portion of said mouse device in response to said received sensory feedback signal, said casing portion including a top surface of a housing of said mouse device, said movement delivering a tactile sensation to said housing [to said user's palm through said top surface of said housing when said palm is in contact with said casing portion].

44. (amended) A method as recited in claim 43 wherein a movement generator generates vibrations of varying frequency corresponding to different graphical details on a[said] graphical display.

47. (amended) A method as recited in claim 43 wherein said movement generator is activated in response to movement corresponding with graphical details on a graphical display, wherein at least one of said graphical details is a border of a window.

48. (amended) A method as recited in claim 43 wherein said movement generator is activated in response to movement corresponding with graphical details on a graphical display, wherein at least one of said graphical details is an icon.

49. (amended) A method as recited in claim 43 wherein said motion of said casing portion includes a vibration of said casing portion and wherein different graphical details are coded with different vibration frequencies [so that a user can identify graphical details by vibration frequency].

53. (amended) A method as recited in claim 43 wherein a[the] cursor can be positioned within the borders of one of a plurality of [said] graphical details, wherein said cursor is caused to remain within said borders until said cursor is released by [said user] pressing down said casing portion of said mouse device.